

The rainfall, as compared with the average for July of the past three years, has been deficient in the New Orleans, Memphis, Vicksburg, Little Rock, and Mobile districts; in all other districts there has been an excess. The means of the maximum and minimum temperatures for the several districts have generally been above the average.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for July, 1885.

Station.	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Max.	Min.			
Atlantic City, New Jersey	80.2	65.2	15.0	4.8	73.3
Alpena, Michigan	74.0	65.5	8.5	12.8	64.7
Augusta, Georgia	84.0	76.1	7.9	6.2	80.7
Baltimore, Maryland	83.4	72.5	10.9	10.3	79.6
Block Island, Rhode Island	71.0	60.2	10.8	6.0	70.6
Boston, Massachusetts	70.1	56.3	13.8	20.4	71.3
Buffalo, New York	68.8	61.1	7.7	9.2	69.5
Canby, Fort, Washington Territory	89.3	81.3	8.0	8.3	82.1
Cedar Keys, Florida	85.4	79.6	5.8	41.5	81.9
Charleston, South Carolina	66.1	59.3	6.8	8.0	72.8
Chicago, Illinois	88.0	67.1	20.9	3.0	70.4
Chincoteague, Virginia	77.3	67.6	9.7	14.0	71.6
Cleveland, Ohio	75.2	72.0	3.2	24.5	74.7
Detroit, Michigan	67.7	48.7	19.0	10.1	65.5
Duluth, Minnesota	49.0	43.4	5.6	15.2	61.6
Eastport, Maine	72.8	61.7	11.1	18.1	67.6
Escanaba, Michigan	88.5	85.0	3.5	12.8	84.9
Galveston, Texas	77.9	53.4	24.5	19.0	67.3
Grand Haven, Michigan	88.6	84.5	4.1	8.7	83.0
Indianola, Texas	88.9	87.9	1.0	18.0	82.4
Jacksonville, Florida	89.0	86.7	2.3	17.6	84.9
Key West, Florida	71.6	59.3	12.3	10.0	65.3
Mackinaw City, Michigan	87.0	77.0	10.0	7.7	79.8
Macon, Fort, North Carolina	66.0	50.6	15.4	8.0	68.4
Marquette, Michigan	87.0	80.7	6.3	16.0	79.7
Milwaukee, Wisconsin	80.2	63.9	16.3	17.2	72.1
Mobile, Alabama	69.2	58.3	10.9	12.3	71.4
New Haven, Connecticut	77.8	65.0	12.8	13.8	71.2
New London, Connecticut	86.7	74.0	12.7	10.3	80.5
New York City	85.9	81.4	4.5	17.3	81.6
Norfolk, Virginia	64.1	53.1	11.0	16.9	67.6
Pensacola, Florida	73.9	69.7	4.2	57.3	68.0
Portland, Maine	81.4	69.8	11.6	11.9	74.5
Portland, Oregon	74.8	64.0	10.8	2.3	73.7
Sandusky, Ohio	63.1	58.1	5.0	36.2	60.5
Sandy Hook, New Jersey	86.8	81.8	5.0	9.8	82.5
San Francisco, California	86.5	79.8	6.7	10.8	80.6
Savannah, Georgia	82.1	71.2	10.9	13.4	75.3
Smithville, North Carolina					
Toledo, Ohio					
Wilmington, North Carolina					

• Record for first 17 days of month.

† Record for 10 days.

WINDS.

The most frequent directions of the wind during July, 1885, are shown on chart ii. by arrows flying with the wind; with the exception of a few stations, the prevailing winds in all districts east of the one hundredth meridian, were from the south or southwest; on the Pacific coast they were westerly; in the Rocky mountain districts they were variable.

HIGH WINDS.

(In miles per hour.)

On the summit of Mount Washington, New Hampshire, winds of fifty or more miles per hour occurred during the month as follows: 60, nw., 8th; 90 nw., 9th; 65, nw., 10th; 58, nw., 11th; 60, se., 14th; 56, nw., 15th; 96, nw., 17th; 83, w., 18th; 60, nw., 20th; 60, w., 21st; 60, nw., 22d; 54, sw., 24th; 61, nw., 25th; 60, nw., 26th.

Other stations reporting wind velocities of fifty miles or more per hour are as follows:

Pike's Peak, Colorado, 56, w., 5th; 52, w., 15th.

Fort Buford, Dakota, 50, w., 6th.

Poplar River, Montana, 60, n., 16th.

Fort Totten, Dakota, 53, ne., 28th.

Moorhead, Minnesota, 51, n., 29th.

LOCAL STORMS AND TORNADOES.

The "New York Herald," of July 3d, contained the following:

NEW ORLEANS, July 2, 1885.—A special dispatch from Santa Rosa, Mexico, gives an account of a cyclone which passed over that section recently, doing great damage. Colonel Pedro Valdez had his out-houses blown down, and estimates his loss by breaking off and uprooting of sugar cane at several thousand dollars. Where the storm crossed the Sabine river great cottonwood and pine trees were snapped off at the roots or torn up bodily. After the storm had passed the stumps of trees looked like gigantic grass over which a mower had passed. Not a tree was left standing in its course. In San Juan del Sabinas forty houses were blown down and several persons injured. Ranches in the track of the storm were much damaged and many cattle and sheep killed. The track of the storm was four hundred yards wide and its duration from four to five minutes.

White House, Hunterdon county, New Jersey: a very heavy rain storm occurred in this vicinity at about 3 p. m. on the 6th. Rockaway creek rose to a greater height than has been known for many years; several bridges were washed away; much damage was done to crops.

Chattanooga, Tennessee: a severe wind storm is reported to have occurred during the night of the 6-7th in the vicinity of Glenn Station, Alabama, on the Memphis and Charleston railroad. A freight car was blown from the side-track at that place.

Ithaca, Tompkins county, New York: a tornado occurred at 11.30 a. m. on the 7th, passing through the village of Varua, two miles east of Ithaca. The damage to buildings was confined to sheds and other light structures.

Green Bay, Brown county, Wisconsin: a severe storm occurred here between 6 and 7 p. m. on the 8th. The most violent part of the storm was of about thirty minutes duration. Several buildings were damaged by lightning.

Sparta, Monroe county, Wisconsin: a violent storm occurred at this place during the evening of the 8th. Numerous buildings were badly damaged; fourteen cars at the Saint Paul depot were blown from the track; several cars at the North-western depot were also derailed.

Edgerton, Rock county, Wisconsin: more than two hundred tobacco sheds in this vicinity were demolished by the storm on the 8th; dwellings, barns, and other out-buildings were also damaged, and considerable live stock was killed.

At Appleton, Outagamie county, Wisconsin: a church, mill, and a number of residences were destroyed by the storm of the 8th; at Stoughton, Dane county, dwellings, barns, and tobacco sheds were also destroyed, and a number of horses and cattle were killed.

West Salem, La Crosse county, Wisconsin: the storm of the 8th was one of the most severe experienced in this vicinity for many years. Its course, in a narrow path, was from a point about three miles northwest of this place, directly eastward. The appearance of the forest indicates that there were two currents, one from the southwest and the other from the northwest. In one instance, of a fine orchard of fifty trees, about a dozen remained standing, the others having been broken off or torn out of the ground. In Lewis Valley there was a heavy fall of hail, which did great damage to the grain crops.

Cashton, Monroe county, Wisconsin: at about 7 p. m. on the 8th two storms, one coming from the southwest and the other from the northwest, met near the town of Clinton, Vernon county, forming a tornado which moved in an easterly direction, destroying much property in its course.

Neillsville, Clark county, Wisconsin: a severe storm occurred here at about 5.30 p. m. on the 8th; much damage was done to buildings, trees, etc.

Plainfield, Waushara county, Wisconsin: the storm of the 8th was one of the most violent that has ever occurred here. A large number of buildings were blown down or unroofed.

Port Edwards, Wood county, Wisconsin: a store, mill, and five dwellings at this place were destroyed by the storm of the 8th. At Dexterville, in this county, the damage by wind and lightning is estimated at \$5,000.

Waupaca, Waupaca county, Wisconsin: a destructive storm